

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

Claim 1 (Currently Amended): A process for producing a heat mode-compatible positive planographic printing plate precursor comprising a support and a photosensitive layer whose solubility in an aqueous alkali solution increases upon heat-mode exposure, comprising the steps of:

applying a photosensitive layer coating solution onto the support; and

drying the photosensitive layer coating solution at a drying temperature not less than 150°C and not greater than 200°C and for a drying time of 20 to 110 seconds ~~or less~~,
wherein

the photosensitive layer coating solution is obtained by dissolving or dispersing a photosensitive composition in a solvent;

the photosensitive composition contains a polymer insoluble in water but soluble in an aqueous alkali solution;

the solvent comprises a low-boiling solvent with a boiling point of 130°C or less and a high-boiling solvent with a boiling point of greater than 130°C; and

the residual solvent in the photosensitive layer is 5% by weight or less relative to the weight of the photosensitive layer.

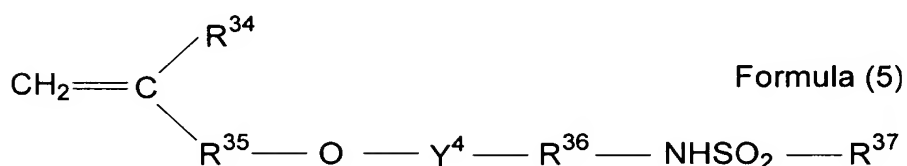
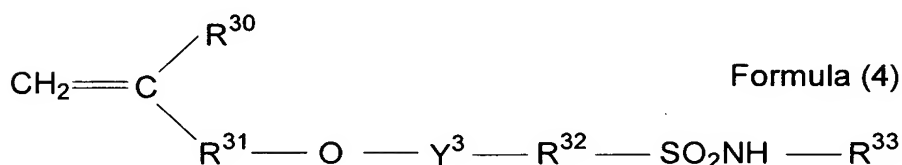
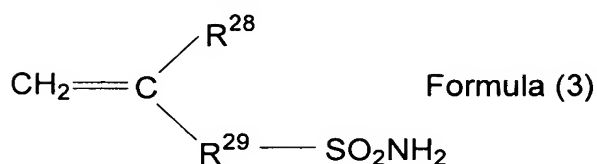
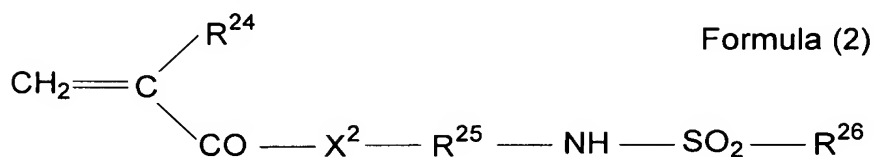
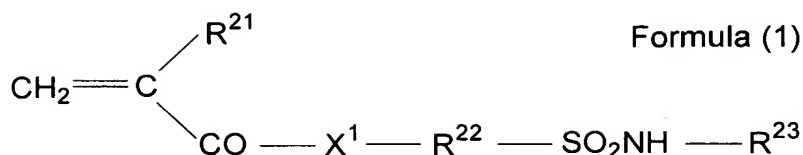
Claim 2 (Original): The process of claim 1, which further comprises the step of drying the photosensitive layer coating solution at a drying temperature of less than 150°C.

Claim 3 (Original): The process of claim 1, wherein the residual solvent in the photosensitive layer is 4% by weight or less relative to the weight of the photosensitive layer.

Claim 4 (Original): The process of claim 1, wherein the polymer insoluble in water but soluble in an aqueous alkali solution has sulfonamide groups or active imide groups on the main chain or side chains thereof as acidic groups.

Claim 5 (Original): The process of claim 1, wherein the solvent is at least one selected from the group consisting of methanol, ethanol, isopropanol, dioxolane, 1-methoxy-2-propanol, ethylacetate, and γ -butyrolactone.

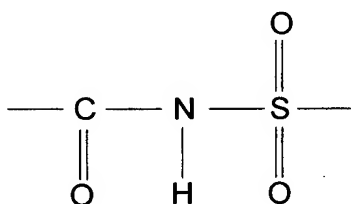
Claim 6 (Original): The process of claim 1, wherein the polymer insoluble in water but soluble in an aqueous alkali solution is mainly constituted by at least one monomer selected from those represented by following formulae (1) to (5):



wherein X^1 and X^2 each represents -O- or -NR²⁷; R^{21} and R^{24} each represents a hydrogen atom or -CH₃; R^{22} , R^{25} , R^{29} , R^{32} and R^{36} each represents an alkylene group having 1 to 12 carbon atoms, cycloalkylene group, arylene group or aralkylene group which may have a substituent group; R^{23} , R^{27} and R^{33} each represents a hydrogen atom, an alkyl group having 1 to 12 carbon atoms, cycloalkyl group, aryl group or aralkyl group which may have a substituent group; R^{26} and R^{37} each represent an alkyl group having 1 to 12 carbon atoms, cycloalkyl group, aryl group, or aralkyl group which may have a substituent group; R^{28} , R^{30} , and R^{34} represent a hydrogen atom or -CH₃; R^{31} and R^{35} each represents an alkylene group having 1 to 12 carbon atoms, cycloalkylene group, arylene group or aralkylene group which

may have a single bond or a substituent group; and Y^3 and Y^4 each represents a single bond or -CO-.

Claim 7 (Original): The process of claim 1, wherein the polymer insoluble in water but soluble in an aqueous alkali solution has active imide groups represented by the following formula on the main chain or side chains thereof as acidic groups:



Claim 8 (Original): The process of claim 1, wherein the polymer insoluble in water but soluble in an aqueous alkali solution is mainly constituted by N-(p-aminosulfonyl phenyl) methacrylamide or N-(p-aminosulfonyl phenyl) acrylamide.

Claim 9 (Original): A process for producing a heat mode-compatible positive planographic printing plate precursor comprising a support and a photosensitive layer whose solubility in an aqueous alkali solution increases upon heat-mode exposure, comprising the steps of:

applying a photosensitive layer coating solution onto the support; and

drying the photosensitive layer coating at a reduced pressure of 30 mmHg or less,

wherein

the photosensitive layer coating solution is obtained by dissolving or dispersing a photosensitive composition in a solvent;

the photosensitive composition contains a polymer insoluble in water but soluble in an aqueous alkali solution; and

the residual solvent in the photosensitive layer is 5% by weight or less relative to the weight of the photosensitive layer.

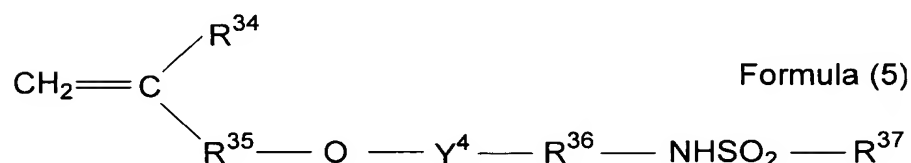
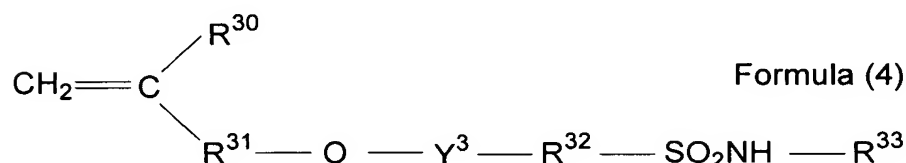
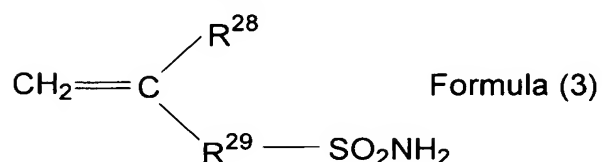
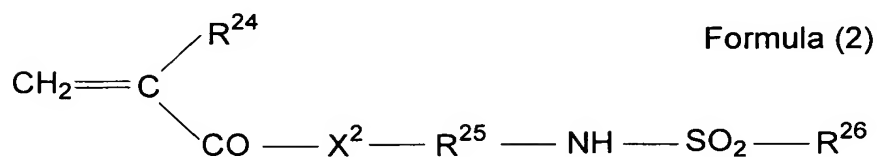
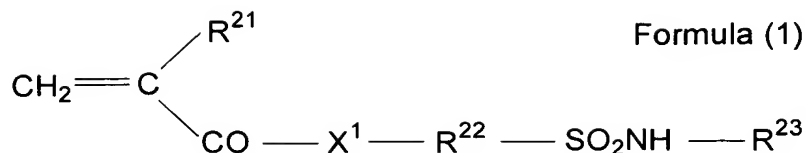
Claim 10 (Original): The process of claim 9, which further comprises the step of drying the photosensitive layer coating solution at a normal pressure.

Claim 11 (Original): The process of claim 9, wherein the residual solvent in the photosensitive layer is 4% by weight or less relative to the weight of the photosensitive layer.

Claim 12 (Original): The process of claim 9, wherein the polymer insoluble in water but soluble in an aqueous alkali solution has sulfonamide groups or active imide groups on the main chain or side chains thereof as acidic groups.

Claim 13 (Original): The process of claim 9, wherein the solvent is at least one selected from the group consisting of methanol, ethanol, isopropanol, dioxolane, 1-methoxy-2-propanol, ethylacetate, and γ -butyrolactone.

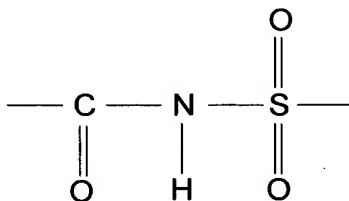
Claim 14 (Original): The process of claim 9, wherein the polymer insoluble in water but soluble in an aqueous alkali solution is mainly constituted by at least one monomer selected from those represented by following formulae (1) to (5):



wherein X^1 and X^2 each represents -O- or -NR²⁷; R^{21} and R^{24} each represents a hydrogen atom or -CH₃; R^{22} , R^{25} , R^{29} , R^{32} and R^{36} each represents an alkylene group having 1 to 12 carbon atoms, cycloalkylene group, arylene group or aralkylene group which may have a substituent group; R^{23} , R^{27} and R^{33} each represents a hydrogen atom, an alkyl group having 1 to 12 carbon atoms, cycloalkyl group, aryl group or aralkyl group which may have a substituent group; R^{26} and R^{37} each represent an alkyl group having 1 to 12 carbon atoms, cycloalkyl group, aryl group, or aralkyl group which may have a substituent group; R^{28} , R^{30} , and R^{34} represent a hydrogen atom or -CH₃; R^{31} and R^{35} each represents an alkylene group having 1 to 12 carbon atoms, cycloalkylene group, arylene group or aralkylene group which

may have a single bond or a substituent group; and Y³ and Y⁴ each represents a single bond or -CO-.

Claim 15 (Original): The process of claim 9, wherein the polymer insoluble in water but soluble in an aqueous alkali solution has active imide groups represented by following formula on the main chain or side chains thereof as acidic groups:



Claim 16 (Original): The process of claim 9, wherein the polymer insoluble in water but soluble in an aqueous alkali solution is mainly constituted by N-(p-aminosulfonyl phenyl)methacrylamide or N-(p-aminosulfonyl phenyl) acrylamide.